

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : SC DHEC
Address : 2600 Bull Street
Columbia, South Carolina 29201

Contact: Mr. Mike Gandy
Project: SC DHEC ChemNuc GW

Report Date: September 12, 2007

Page 1 of 3

Client Sample ID: 083007-41
Sample ID: 192939001
Matrix: Ground Water
Collect Date: 30-AUG-07 15:45
Receive Date: 31-AUG-07
Collector: Client

Project: DHEC00105
Client ID: DHEC002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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Rad Gamma Spec Analysis

Gammascpec, Gamma, Liquid (Standard List)

Rad Gas Flow Proportional Counting

GFPC, Gross Alpha/Beta, liquid

Rad Liquid Scintillation Analysis

LSC, Tritium Dist, Liquid

Tritium		4.92E+02	+/-2.43E+02	3.32E+02	7.00E+02	pCi/L		BXF1	09/04/07	1605	679745	3
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Volatile Organics

GEL 8260B Method List Liquid

1,1,1-Trichloroethane	U	ND		0.300	1.00	ug/L	1	CDS1	09/08/07	0124	680361	4
1,1,2,2-Tetrachloroethane	U	ND		0.250	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND		0.250	1.00	ug/L	1					
1,1-Dichloroethane	U	ND		0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND		0.300	1.00	ug/L	1					
1,2-Dichlorobenzene	U	ND		0.250	1.00	ug/L	1					
1,2-Dichloroethane	U	ND		0.250	1.00	ug/L	1					
1,2-Dichloropropane	U	ND		0.250	1.00	ug/L	1					
1,3-Dichlorobenzene	U	ND		0.250	1.00	ug/L	1					
1,4-Dichlorobenzene	U	ND		0.250	1.00	ug/L	1					
1,4-Dioxane	U	ND		20.0	200	ug/L	1					
2-Butanone	U	ND		1.25	10.0	ug/L	1					
Acrolein	U	ND		3.00	10.0	ug/L	1					
Acrylonitrile	U	ND		1.00	10.0	ug/L	1					
Benzene	U	ND		0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND		0.250	1.00	ug/L	1					
Bromoform	U	ND		0.250	1.00	ug/L	1					
Bromomethane	U	ND		0.500	1.00	ug/L	1					
Carbon tetrachloride	U	ND		0.250	1.00	ug/L	1					
Chlorobenzene	U	ND		0.250	1.00	ug/L	1					
Chloroethane	U	ND		0.500	1.00	ug/L	1					
Chloroform	J	0.307		0.250	1.00	ug/L	1					
Chloromethane	U	ND		0.500	1.00	ug/L	1					
Dibromochloromethane	U	ND		0.250	1.00	ug/L	1					
Dichlorodifluoromethane	U	ND		0.500	5.00	ug/L	1					
Ethylbenzene		ND		0.250	1.00	ug/L	1					

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Client Sample ID: 083007-41
Sample ID: 192939001

Project: DHEC00105
Client ID: DHEC002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
<i>GEL 8260B Method List Liquid</i>												
	U											
Methylene chloride	J	2.01		2.00	5.00	ug/L	1					
Tetrachloroethylene	U	ND		0.250	1.00	ug/L	1					
Toluene	U	ND		0.250	1.00	ug/L	1					
Trichloroethylene	U	ND		0.250	1.00	ug/L	1					
Trichlorofluoromethane	U	ND		0.310	5.00	ug/L	1					
Trichlorotrifluoroethane	U	ND		1.00	10.0	ug/L	1					
Vinyl chloride	U	ND		0.500	1.00	ug/L	1					
Xylenes (total)	U	ND		0.250	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND		0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND		0.250	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND		0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND		0.250	1.00	ug/L	1					

The following Analytical Methods were performed

Method	Description	Analyst	Comments
1	EPA 901.1		
2	EPA 900.0		
3	EPA 906.0 Modified		
4	SW846 8260B		

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	GEL 8260B Method List Liquid	55.2 ug/L	65.0	85	(68%-121%)
Bromofluorobenzene	GEL 8260B Method List Liquid	60.7 ug/L	65.0	93	(80%-120%)
Dibromofluoromethane	GEL 8260B Method List Liquid	60.7 ug/L	65.0	93	(78%-124%)
Toluene-d8	GEL 8260B Method List Liquid	58.5 ug/L	65.0	90	(77%-122%)

Notes:

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.

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Sample ID: 192939001

Project: DHEC00105
Client ID: DHEC002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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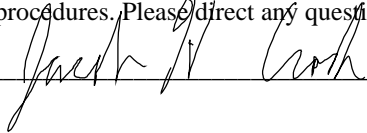
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
E Organics--Concentration of the target analyte exceeds the instrument calibration range
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).
Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded

The above sample is reported on an "as received" basis.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jake Crook.

Reviewed by



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Contact: Mr. Mike Gandy

Project: SC DHEC ChemNuc GW

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Client Sample ID: 083107-42
Sample ID: 192939002
Matrix: Ground Water
Collect Date: 31-AUG-07 08:30
Receive Date: 31-AUG-07
Collector: Client

Project: DHEC00105
Client ID: DHEC002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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Rad Gamma Spec Analysis

Gammascpec, Gamma, Liquid (Standard List)

Rad Gas Flow Proportional Counting

GFPC, Gross Alpha/Beta, liquid

Rad Liquid Scintillation Analysis

LSC, Tritium Dist, Liquid

Tritium	U	ND	+/-2.13E+02	3.42E+02	7.00E+02	pCi/L		BXF1	09/04/07	1623	679745	3
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Volatile Organics

GEL 8260B Method List Liquid

1,1,1-Trichloroethane	U	ND		0.300	1.00	ug/L	1	CDS1	09/08/07	0151	680361	4
1,1,2,2-Tetrachloroethane	U	ND		0.250	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND		0.250	1.00	ug/L	1					
1,1-Dichloroethane	U	ND		0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND		0.300	1.00	ug/L	1					
1,2-Dichlorobenzene	U	ND		0.250	1.00	ug/L	1					
1,2-Dichloroethane	U	ND		0.250	1.00	ug/L	1					
1,2-Dichloropropane	U	ND		0.250	1.00	ug/L	1					
1,3-Dichlorobenzene	U	ND		0.250	1.00	ug/L	1					
1,4-Dichlorobenzene	U	ND		0.250	1.00	ug/L	1					
1,4-Dioxane	U	ND		20.0	200	ug/L	1					
2-Butanone	U	ND		1.25	10.0	ug/L	1					
Acrolein	U	ND		3.00	10.0	ug/L	1					
Acrylonitrile	U	ND		1.00	10.0	ug/L	1					
Benzene	U	ND		0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND		0.250	1.00	ug/L	1					
Bromoform	U	ND		0.250	1.00	ug/L	1					
Bromomethane	U	ND		0.500	1.00	ug/L	1					
Carbon tetrachloride	U	ND		0.250	1.00	ug/L	1					
Chlorobenzene	U	ND		0.250	1.00	ug/L	1					
Chloroethane	U	ND		0.500	1.00	ug/L	1					
Chloroform	U	ND		0.250	1.00	ug/L	1					
Chloromethane	U	ND		0.500	1.00	ug/L	1					
Dibromochloromethane	U	ND		0.250	1.00	ug/L	1					
Dichlorodifluoromethane	U	ND		0.500	5.00	ug/L	1					
Ethylbenzene		ND		0.250	1.00	ug/L	1					

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Client Sample ID: 083107-42
Sample ID: 192939002

Project: DHEC00105
Client ID: DHEC002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
<i>GEL 8260B Method List Liquid</i>												
	U											
Methylene chloride	U	ND		2.00	5.00	ug/L	1					
Tetrachloroethylene	U	ND		0.250	1.00	ug/L	1					
Toluene	U	ND		0.250	1.00	ug/L	1					
Trichloroethylene	U	ND		0.250	1.00	ug/L	1					
Trichlorofluoromethane	U	ND		0.310	5.00	ug/L	1					
Trichlorotrifluoroethane	U	ND		1.00	10.0	ug/L	1					
Vinyl chloride	U	ND		0.500	1.00	ug/L	1					
Xylenes (total)	U	ND		0.250	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND		0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND		0.250	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND		0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND		0.250	1.00	ug/L	1					

The following Analytical Methods were performed

Method	Description	Analyst	Comments
1	EPA 901.1		
2	EPA 900.0		
3	EPA 906.0 Modified		
4	SW846 8260B		

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	GEL 8260B Method List Liquid	57.4 ug/L	65.0	88	(68%-121%)
Bromofluorobenzene	GEL 8260B Method List Liquid	61.1 ug/L	65.0	94	(80%-120%)
Dibromofluoromethane	GEL 8260B Method List Liquid	62.1 ug/L	65.0	95	(78%-124%)
Toluene-d8	GEL 8260B Method List Liquid	59.9 ug/L	65.0	92	(77%-122%)

Notes:

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.

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Client Sample ID: 083107-42
Sample ID: 192939002

Project: DHEC00105
Client ID: DHEC002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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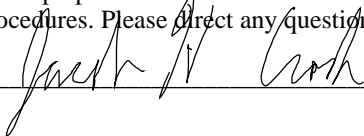
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
E Organics--Concentration of the target analyte exceeds the instrument calibration range
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).
Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded

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Contact: Mr. Mike Gandy
Project: SC DHEC ChemNuc GW

Report Date: September 12, 2007

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Client Sample ID: Trip Blank
Sample ID: 192939003
Matrix: Ground Water
Collect Date: 22-AUG-07 16:00
Receive Date: 31-AUG-07
Collector: Client

Project: DHEC00105
Client ID: DHEC002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
<i>GEL 8260B Method List Liquid</i>												
1,1,1-Trichloroethane	U	ND		0.300	1.00	ug/L	1	ACJ	09/05/07	1613	680361	1
1,1,2,2-Tetrachloroethane	U	ND		0.250	1.00	ug/L	1					
1,1,2-Trichloroethane	U	ND		0.250	1.00	ug/L	1					
1,1-Dichloroethane	U	ND		0.300	1.00	ug/L	1					
1,1-Dichloroethylene	U	ND		0.300	1.00	ug/L	1					
1,2-Dichlorobenzene	U	ND		0.250	1.00	ug/L	1					
1,2-Dichloroethane	U	ND		0.250	1.00	ug/L	1					
1,2-Dichloropropane	U	ND		0.250	1.00	ug/L	1					
1,3-Dichlorobenzene	U	ND		0.250	1.00	ug/L	1					
1,4-Dichlorobenzene	U	ND		0.250	1.00	ug/L	1					
1,4-Dioxane	U	ND		20.0	200	ug/L	1					
2-Butanone	U	ND		1.25	10.0	ug/L	1					
Acrolein	U	ND		3.00	10.0	ug/L	1					
Acrylonitrile	U	ND		1.00	10.0	ug/L	1					
Benzene	U	ND		0.300	1.00	ug/L	1					
Bromodichloromethane	U	ND		0.250	1.00	ug/L	1					
Bromoform	U	ND		0.250	1.00	ug/L	1					
Bromomethane	U	ND		0.500	1.00	ug/L	1					
Carbon tetrachloride	U	ND		0.250	1.00	ug/L	1					
Chlorobenzene	U	ND		0.250	1.00	ug/L	1					
Chloroethane	U	ND		0.500	1.00	ug/L	1					
Chloroform	U	ND		0.250	1.00	ug/L	1					
Chloromethane	U	ND		0.500	1.00	ug/L	1					
Dibromochloromethane	U	ND		0.250	1.00	ug/L	1					
Dichlorodifluoromethane	U	ND		0.500	5.00	ug/L	1					
Ethylbenzene	U	ND		0.250	1.00	ug/L	1					
Methylene chloride	U	ND		2.00	5.00	ug/L	1					
Tetrachloroethylene	U	ND		0.250	1.00	ug/L	1					
Toluene	U	ND		0.250	1.00	ug/L	1					
Trichloroethylene	U	ND		0.250	1.00	ug/L	1					
Trichlorofluoromethane	U	ND		0.310	5.00	ug/L	1					
Trichlorotrifluoroethane	U	ND		1.00	10.0	ug/L	1					
Vinyl chloride	U	ND		0.500	1.00	ug/L	1					

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Client Sample ID: Trip Blank
Sample ID: 192939003

Project: DHEC00105
Client ID: DHEC002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics												
<i>GEL 8260B Method List Liquid</i>												
Xylenes (total)	U	ND		0.250	3.00	ug/L	1					
cis-1,2-Dichloroethylene	U	ND		0.300	1.00	ug/L	1					
cis-1,3-Dichloropropylene	U	ND		0.250	1.00	ug/L	1					
trans-1,2-Dichloroethylene	U	ND		0.300	1.00	ug/L	1					
trans-1,3-Dichloropropylene	U	ND		0.250	1.00	ug/L	1					

The following Analytical Methods were performed

Method	Description	Analyst	Comments
1	SW846 8260B		

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
1,2-Dichloroethane-d4	GEL 8260B Method List Liquid	67.8 ug/L	65.0	104	(68%-121%)
Bromofluorobenzene	GEL 8260B Method List Liquid	65.3 ug/L	65.0	101	(80%-120%)
Dibromofluoromethane	GEL 8260B Method List Liquid	72.3 ug/L	65.0	111	(78%-124%)
Toluene-d8	GEL 8260B Method List Liquid	67.8 ug/L	65.0	104	(77%-122%)

Notes:

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.

C Analyte has been confirmed by GC/MS analysis

D Results are reported from a diluted aliquot of the sample

E Organics--Concentration of the target analyte exceeds the instrument calibration range

H Analytical holding time was exceeded

J Value is estimated

N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).

Quantitation is based on nearest internal standard response factor

N/A RPD or %Recovery limits do not apply.

ND Analyte concentration is not detected above the detection limit

NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%

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Project: **SC DHEC ChemNuc GW**

Report Date: September 12, 2007

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Client Sample ID: Trip Blank
Sample ID: 192939003

Project: DHEC00105
Client ID: DHEC002

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
-----------	-----------	--------	-------------	----	----	-------	----	---------	------	------	-------	--------

- R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded

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